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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DUONG, TAI V

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 10/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/439,607

Applicant(s)

NAKANISHI ET AL.

Examiner

TAI DUONG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 7 and 11 are not consistent with the specification and the drawings because these claims recite one electrode. However, the specification and the drawings show two separate electrodes for providing a parallel electric field. The remaining claims are also rejected since they depend on the indefinite claims.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kondo et al'051. Note Fig 19 of Kondo which is the same as the instant Fig. 2B. Although Kondo does not disclose about the different orientations, the first and second angles, such orientations and angles are inherent with Kondo's device because of the same structure.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 5, 6 and ²¹20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al'051 in view of Matsuyama et al.

Matsuyama discloses in Fig. 5 that it was known to employ liquid crystal (LC) with resistivity $1 \times 10^{13} \Omega \text{cm}$. Thus, it would have been obvious to a person of ordinary skill in the art to employ LC having the above resistivity in the device of Kondo's Fig. 19 for suppressing the variations of the driving voltages.

As to claims 6 and ²¹20, it is well-known in the art that the resistivity of the LC will be decreased after a long time of using because of the impurities released by the alignment layers, the color filters, the spacers and the seal in contact with the LC layer.

Claims 1 and 11-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohta et al'116.

Note Figs. 7, 9 and 10 which identically disclose the claimed LCD comprising a each of the pixels including a plurality of domains having respective, mutually different electro-optic properties. Also, note the change in interval between adjacent fingers.

Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al'116 in view of Abileah et al '126 and Asada et '207.

As to claim 15, Abileah et al disclose in Fig. 1 a thickness that changes in a direction perpendicular to a direction of the electric field acting generally parallel to the

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plane of the LC layer. Thus, it would have been obvious to a person of ordinary skill in the art to employ the above-mentioned change in thickness in Ohta's device for obtaining good contrast due to compensation for the different wavelengths.

Regarding claims 16 and 17, Asada et al disclose that it was known to employ LC having negative dielectric anisotropy which provides the orientations of the LC molecules in response to the electric field as recited in the claims (col. 6, lines 45-54). Thus, it would have been obvious to a person of ordinary skill in the art to employ the above-mentioned LC in Ohta's device for achieving fast response.

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroshi'937 in view of Kang et al'669.

Hiroshi discloses a method similar to that of the instant claims except for the polarized ultraviolet (UV) radiation and the pretilt angles being controlled by the exposure dose (col. 9, lines 36-39). However, Kang et al disclose that it was known to employ the polarized UV radiation with different exposure doses (col. 3, lines 30-35; Figs. 4 -5; col. 6, lines 1-19)). Thus, it would have been obvious to a person of ordinary skill in the art in view of Kang to employ polarized UV radiation with different exposure doses in Hiroshi's method for obtaining regions with different tilt angles with the ease of fabrication process with good yield, as compared to the rubbing process.

Claims 7-10 are allowable over the prior art of record because none of the prior art discloses or suggests an in-plane switching type LCD device comprising the LC layer having resistivity of about $1 \times 10^{14} \Omega \text{cm}$ and a spacer (intentionally) releasing an impurity to the LC layer.

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Any inquiry concerning this communication should be directed to TAI DUONG at
telephone number 703 308-4873.

TVD
10/02


TOANTON
PRIMARY EXAMINER